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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES R. BUTLER, PAUL J. BURAS,
and WILLIAM LEE

Appeal 2008-2800
Application 10/749,259
Technology Center 1700

Decided: August 29, 2008

Before THOMAS A. WALTZ, LINDA M. GAUDETTE, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek review under 35 U.S.C. § 134 from the Examiner's final rejection of all pending claims in the Office Action dated June 28, 2006. This Board has jurisdiction under 35 U.S.C. § 6(b). For the reasons stated below, the Examiner's decision is AFFIRMED.

The present invention is directed to an asphalt composition, a method of preparing the asphalt composition and a method of using the asphalt composition. Claim 1 is illustrative and is reproduced below:

1. A method of preparing asphalt and polymer compositions comprising:

heating a mixture consisting essentially of asphalt and an elastomeric polymer;

adding from about 0.05 wt% up to 5 weight % of a metal salt based on the weight of the asphalt/polymer mixture, where the metal of the metal salt is selected from the group consisting essentially of zinc, cadmium, mercury, copper, silver, nickel, platinum, iron, magnesium, and mixtures thereof; and

where the compatibility of the asphalt and polymer composition is improved as compared with the compatibility of an identical asphalt and polymer composition having a lesser metal salt amount.

The Examiner relies on the following prior art as evidence of unpatentability:

Guo	6,713,539	March 30, 2004

Claims 1-3, 5-11, 12-20, 23-24, 26, 28, 30-32, 35-37, 39-47, and 49-50 are all of the pending claims and stand rejected under 35 U.S.C. § 103(a) as unpatentable over Guo (Ans. 3).

FINDINGS OF FACT (FF)

1. Guo discloses an asphalt composition comprising base asphalt, 50-97.7 parts by weight, polymer having double bonds, 2.0-20.0 parts by

weight, compatibilizer, 0.1-20.0 parts by weight, cross-linking reagent, 0.1-10.0 parts by weight, and organic polar compound, 0.1-10.0 parts by weight. Col. 3, ll. 8-12.

2. Guo discloses that suitable cross-linking reagents include symbolizing sulfur-donating cross-linking reagents, col. 3, ll. 45-46. According to Guo, a "symbolizing" sulfur-donating cross-linking reagent principally refers to a metal oxide cross-linking reagent, the metal mainly referring to a divalent metal such as Ca, Mg, Zn, Pb, etc. The reagent is one selected from the group consisting of CaO, MgO, ZnO, and PbO, or mixtures thereof, col. 3, l. 66 – col. 4, l. 4.

3. According to Guo, the function of adding organic polar compounds to an asphalt and polymer mixture is to promote the reaction of the cross linking reagent. The results of the invention show that the addition of the organic polar compounds makes the asphalt and the polymer having double bonds form a continuous phase structure through the action of the organic polar compounds. Col. 7, ll. 57-63.

PRINCIPLES OF LAW

"During examination, 'claims … are to be given their broadest reasonable interpretation consistent with the specification, and … claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *In re American Acad. of Sci. Tech. Ctr.,* 367 F.3d 1359, 1364 (Fed. Cir. 2004).

The process of patent prosecution is an interactive one. Once the Patent Office has made an initial determination that specified claims are not patentable, the burden of proof falls upon the applicant to establish

entitlement to a patent. This promotes the development of the written record before the PTO that provides the requisite written notice to the public as to what the applicant claims as the invention. Public notice is an important objective of patent prosecution before the PTO. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

Section 103 forbids issuance of a patent when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.,* 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.,* 383 U.S. 1, 17-18 (1966). The test is whether the claimed invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Connell v. Sears, Roebuck & Co.,* 722 F.2d 1542, 1549 (Fed. Cir. 1983).

The claim transition phrase "consisting essentially of" limits the scope of the claim to the specified ingredients and those that do not materially affect the basic and novel characteristic(s) of the composition. *In re Herz*, 537 F.2d 549, 552-53 (CCPA 1976).

The discovery of a new property or use of a previously known composition, even when that property and use are unobvious from the prior art, can not impart patentability to claims to the known composition. *In re*

Spada, 911 F.2d 705, 708 (Fed. Cir. 1990). "[W]hen the PTO shows [a] sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *Id.* at 709. *See also In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (where the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product).

A disclosure that anticipates under § 102 also renders the claim obvious under § 103, for "anticipation is the epitome of obviousness." *Connell v. Sears Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (quoting *In re Fracalossi,* 681 F.2d 792, 794 (CCPA 1982)).

A claimed invention limited to ranges of a composition is prima facie obvious when a prior art reference discloses a range which overlaps the claimed range. *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003). *See, also In re Malagari,* 499 F.2d 1297, 1303 (claimed invention is rendered prima facie obvious by the teachings of a prior art reference that discloses a range that touches the range recited in the claim). A prima facie case of obviousness based on overlapping ranges can be rebutted by establishing "that the range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *Id.* (quoting *In re Geisler*, 116 F.3d 1465, 1469-70 (Fed. Cir. 1997)).

DISCUSSION

Rejection of claims 1-3, 5-11, 12-20, 23-24, 26, 28, 30-32, 35-37, and 49-50 under 35 U.S.C. §103(a) over Guo.

Appellants traverse the rejection of the pending claims over Guo in subgroups according to common limitations in the claims of the subgroup. Appellants do not use subheadings in their Brief, but note the claims to which each issue pertains at the end of each paragraph. In the discussion below, reference is made to the claims identified with each issue.

The Examiner had rejected all the pending claims under 35 U.S.C. § 103(a) as obvious over Guo. The Examiner maintains that Guo teaches a method of preparing an asphalt and polymer composition comprising the process steps with the incorporation of zinc oxide. The Examiner asserts that the compatibility limitation is presumed to be met by the method shown in the examples and that it is reasonable to presume that the properties are anticipated or rendered obvious from the prior art teaching when the conditions and composition ingredients are the same as those claimed. Ans. 3. The Examiner contends that the composition ingredients and the mixing conditions are the same, and thus it is reasonable to presume that the compatibility is improved as well. *Id.* The Examiner then contends Appellants have failed to show or allege that such is not the case. *Id.*

Claims 1, 14, 26, and 40

Appellants argue that Guo does not teach adding 0.05 wt% up to 5 wt% of a *metal salt* to an asphalt and polymer composition to improve the compatibility of the asphalt and polymer composition as compared with the compatibility of an identical asphalt and polymer composition having a

lesser metal salt amount. App. Br. 9 [emphasis in original]. Appellants also argue that Guo does not teach that such compositions have reduced gel. *Id.*

Guo discloses asphalt compositions containing metal oxides, including calcium oxide, magnesium oxide, and zinc oxide, in concentrations up to and in excess of 5 wt%. FF1, 2. While Guo may not explicitly teach that its asphalt composition exhibits the claimed properties, we find that the claimed composition, or the composition produced by the claimed method, are substantially the same, *see* FF1. Since the claimed and prior art products are substantially the same, we find that these same properties of compatibility and improved gel are necessarily inherent in Guo's composition. *See Best,* 562 F.2d at 1255. According to Appellants' Specification, improvements in the two properties of compatibility and gelling are observed when the concentration of metal oxide exceeds that needed for activation, typically greater than about 0.3 wt%. Spec. 15, ll. 15-21. The Specification discloses that when the concentration of metal salt exceeds the amount normally used for activation, up to 5 wt%, improvements are observed in the composition's compatibility and gelling. Spec. 8, ll. 14- 25. The composition disclosed in Guo comprises the same ingredients, having concentrations in ranges overlapping those ranges of Appellants' claimed composition. We therefore determine that the properties of improved compatibility and gelling would have been inherent in the composition disclosed in Guo.

Based on the foregoing, we find that the Examiner properly established a prima facie case of obviousness as to claims 1, 14, 26 and 40. Accordingly, the burden was properly shifted to Appellants to establish that the claimed composition and that of Guo are not substantially the same or

that the claimed properties are not necessarily or inherently possessed by the Guo composition. *See Spada*, 911 F.2d at 708; *Best,* 562 F2.d at 1255. Appellants have not met this burden and thus have not shown reversible error by the Examiner.

Further, Guo describes a weight range for the metal salt of the asphalt composition (namely, 0.1 to 10 %) that substantially overlaps the claimed range of the metal salt (e.g., 0.05% to 5.0 % as in claim 1), (see, FF 1, 2) , Appellants have not shown that their claimed range achieves unexpected results. *Peterson*, 315 F.3d at 1330. Accordingly, we determine that the Appellants have not shown the Examiner reversibly erred in maintaining this rejection.

Claims 17 et seq. and 43 et seq.

Appellants next argue that Guo does not teach that adding from about 0.05 wt% up to 5 wt% of a *metal oxide* to an asphalt and polymer composition improves the compatibility of the asphalt and polymer composition as compared with the compatibility of an identical asphalt and polymer composition having a lesser metal oxide amount. App. Br. 9 [emphasis in original]. This is essentially the same argument as the prior subheading, except directed to the limitation of a *metal oxide* instead of a *metal salt*. Nevertheless, our conclusion is the same, because the prior art teaches using CaO, ZnO and other metal salts which are also metal oxides, *see* FF 2. We conclude that Appellants have failed to show reversible error by the Examiner in rejecting these claims for the reasons stated above and in the Answer.

Claims 23 et seq. and Claims 49 et seq.

Appellants next argue that Guo does not teach that adding from about 0.05 wt% up to 5 wt% of *a metal oxide selected from Groups IIA and IIB of the Periodic Table* to an asphalt, polymer, and ground tire rubber (GTR) composition improves the homogeneity of the asphalt composition as compared with the compatibility[1] of an identical asphalt composition having a lesser metal oxide amount. App. Br. 10 [emphasis in original].

Appellants' argument is not persuasive, because Guo teaches using calcium oxide, which one skilled in the art would recognize as an alkaline earth metal, which we judicially note is classified in the Periodic Table as Group IIA. Guo also teaches using zinc oxide, which we note is classified in the Periodic Table as Group IIB. Again, the disclosed concentrations of the alkaline earth metal oxides substantially overlap the claimed ranges, thereby rendering the claimed range prima facie obvious. Appellants have not rebutted this case with any showing of unexpected results for their claimed range. We therefore determine that Appellants have failed to show the Examiner reversibly erred in this rejection.

Miscellaneous arguments

Appellants assert further arguments, though without specifying the claims to which they pertain. *See* App. Br., 2d ¶ et seq. However, to the extent applicable to the claims under review, we find the arguments unpersuasive for the following reasons.

[1] We presume Appellant meant to argue "compared to the *homogeneity* of an identical asphalt mixture," as claim 23 does not contain a limitation for compatibility.

Appellants argue that Guo does not teach using metal salts such as zinc oxide to increase compatibility with an asphalt and polymer composition, but Guo teaches using an organic polar compound. The relevant claims (e.g., claim 1) use the transition phrase, "consisting essentially of," which limits the claim to the elements specified as well as any other elements which do not materially affect the basic and novel characteristics of the composition. *In re Herz*, 537 F.2d at 551-552. The issue, then, is whether the transition phrase "consisting essentially of" excludes organic polar compounds. We determine it does not. Appellants assert that the basic and novel characteristic of their invention is the improved compatibility of an asphalt/polymer composition. App. Br. 10. Guo, on the other hand, discloses that the organic polar compounds help "form a continuous phase structure." FF 3. Appellants fail to point out how a "continuous phase structure," as used in Guo, may materially affect the compatibility or gelling characteristics of their asphalt/polymer composition. App. Br. in its entirety. We therefore find Appellants' argument without merit.

Appellants finally assert that, under *Perricone*,[2] their composition is novel and nonobvious. App. Br. 10. Appellants argue that, as in *Perricone*, where the prior art reference was silent on the entire subject of sunburn, Guo is silent on the subject of using a metal oxide or metal salt to increase the compatibility and homogeneity of an asphalt; thus, Applicants' claims are patentable.

Appellants' reliance on *Perricone* is misplaced. The issue in *Perricone* was whether the known use of a composition as a topical skin

[2] *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368 (Fed. Cir. 2005)

lotion anticipated the use of that composition for treating skin sunburn. The court ruled it did not. The court reasoned that skin sunburn is not analogous to skin surfaces generally. Thus, there is an important distinction between topical application to skin for the purpose of avoiding sunburn, and a much narrower topical application to skin sunburn. *Perricone*, 432 F.3d at 1379. Appellants' claims are directed to methods for preparing the composition, rather than methods for using the composition. Appellants' claimed method for making an asphalt composition is substantially the same as the method described in Guo, thereby producing the same composition. Appellants may have discovered a new property of a known composition; however, for reasons discussed previously, this does not render the claims patentable. In contrast, the prior art in Perricone disclosed a method of using a composition that was not analogous to the claimed method of use.

CONCLUSION

For the foregoing reasons we determined that the Appellants have not shown reversible error by the Examiner and sustain the rejection on appeal.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

sld/cam

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